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ENVIRONMENTAL PROTECTION  
NEW JERSEY DEPT

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Jed

State of New Jersey  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF WASTE MANAGEMENT

32 E. Hanover St., CN 027, Trenton, N.J. 08625

JACK STANTON  
DIRECTOR

06 APR 1983

LINO F. PEREIRA  
DEPUTY DIRECTOR

A. Filiaci  
Director of Environmental Control  
United States Metal Refining Company  
400 Middlesex Avenue  
Carteret, New Jersey 07008

Joel,  
PAB -  
for f.i.e. [ we delisted then  
we deleted their  
TSD status in  
6-7/82 PJP

RE: Delisting of US Metal Refining Company, Carteret, EPA ID NO. NJD000526525  
from hazardous waste TSD facility status

Dear Mr. Filiaci:

The Bureau of Hazardous Waste Engineering has reviewed your company's response to the Notice of Violation, Failure to Submit Annual Report issued by the Bureau of Compliance and Enforcement on January 12, 1983, and the Department's records on the subject company.

The Bureau finds that the materials reprocessed by U.S. Metals Refining Company do not constitute solid wastes as defined under N.J.A.C. 7:26-1.6, and therefore the aforementioned Notice of Violation, Failure to Submit Annual Report is rescinded and need not be complied with.

The Bureau is also deleting the U.S. Metals Refining Company, Carteret Plant from the Department's list of existing hazardous waste facilities. This action is applicable to both the USEPA RCRA regulations under 40 CFR 261 and the NJDEP hazardous waste regulations under N.J.A.C. 7:26-1 et seq.

Very truly yours,

*Frank Coolick*

Frank Coolick, Chief  
Bureau of Hazardous Waste Engineering

FC:TS:jb

cc Joel Golumbek, USEPA-Region II  
Dave Leu, Chief, BHWCM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: January 13, 1983

SUBJECT: United States Metals Refining Company, RCRA Sampling

FROM: Joseph V. Cosentino  
Source Monitoring Section

TO: Ron Testa  
Solid Waste Branch

THRU: John Ciancea, Chief  
Source Monitoring Section

*Joseph Cosentino*  
1-17-83

NTD000526525

RECEIVED  
JAN 14 1983  
NEW YORK, NY 10007

*Input  
to US*

On May 4, 1982 a RCRA sampling survey was conducted at the subject facility by Angela Morales and myself. This survey was requested by EPA's Solid Waste Branch. The purpose was to determine whether the facility is in compliance with the regulatory requirements of RCRA.

*102*

*94  
HMMMS  
6/1/83*

The facility is located at 400 Middlesex Avenue, Carteret, New Jersey and is a subsidiary of Amax Inc. It is the largest secondary copper producer in the United States. The facility, through a variety of metallurgical processes produces copper, gold, silver, platinum, palladium, iridium, rhodium, ruthenium, selenium and tellurium. Feedstocks for the processes are heterogeneous secondary materials (ie: telephone wire and scrap). As a result, certain materials are collected in surface impoundments and baghouses which may be hazardous wastes as defined in RCRA. The facility contends that the nature of its operations are such that no wastes are produced and that these materials are either sold or recycled back into the process. The following were areas of concern and were sampled:

- Sample #62714 was collected from the influent to an 8 million gallon reservoir. The reservoir is bentonite-lined and is used to collect runoff and non-contact cooling water. The reservoir provides process water for the facility.
- Sample #62715 contained reservoir sludge. These solids, because of their precious metals content, are collected and processed through the facility.
- Sample #62716 was collected from 1 of 4 hyperlon-lined lagoons. The lagoons each have a capacity of 200,000 gallons and are used to store acid solutions from the precious metals refinery. These solutions are generated from a number of hydrometallurgical processes and contain high concentrations of precious metals which are concentrated in the lagoons and further processed.
- Sample #62177 was collected from the conversion baghouse residue bagger. The residue is primarily metallic oxides which are sold as feedstocks for metal recovery operations in Belgium, Germany and the United Kingdom. This material is high in tin and zinc content for which USMR does not have the refining capabilities.

All samples were analyzed for the characteristic of EP toxicity (metals) as defined in RCRA. Analysis were performed at EPA's Edison, New Jersey laboratory.

The data obtained from the sample analyses are attached as Table I. The results indicate that all the samples displayed the characteristic of EP toxicity: the reservoir liquid because of its arsenic and selenium content; the reservoir sludge because of its cadmium, lead and selenium content; the precious metals lagoon solution content; and the baghouse residue because of its cadmium, lead and mercury content.

At the time of this inspection the facility had contracted the services of Lion Technology for the installation of ground water monitoring wells around its surface impoundments in fulfillment of a request by New Jersey Department of Environmental Protection.

#### Attachments

Table I - Analytical Results  
Appendix I - Receipt for Samples

ANALYTICAL RESULTS FROM  
MAY 4, 1982 SAMPLING

MAY 4, 1982

* = EXCEED MAXIMUM CONCENTRATION UNDER RORA
J = ESTIMATED VALUE
K = ACTUAL VALUE KNOWN TO BE LESS THAN VALUE



United States Metals Refining Company

400 Middlesex Avenue, Carteret, New Jersey, 07008, Telephone: (201) 541-4141

November 14, 1980

EPA - Region II  
Information Service Center  
26 Federal Plaza  
New York, New York 10007

Gentlemen:

Our organization had been identified by EPA as one which may possibly handle hazardous waste. The attached Part A Application for a Hazardous Waste Permit is duly submitted according to regulations promulgated under the Resource Conservation and Recovery Act. Although we have filed the notification form, and are now filing Part A Application for a Hazardous Waste Permit, we are doing so despite the unreasonableness of the regulations in order to gain interim status and ensure our organizational viability. As we will explain in this letter, the bulk of our residuals are unnecessarily and unreasonably regulated.

U. S. Metals Refining Company is a secondary copper and precious metals smelting and refining facility. Our company is a major recycling facility and is vital to the principle of resource recovery! During the course of recycled refining, we generate thousands of tons of valuable by-products annually. These by-products, generated in the form of pelletized and bagged flue dust, contain gold, silver, copper, lead, tin, and zinc. This flue dust is then sold as feed material to other refineries for extraction of the aforementioned metals.

While we do not consider our flue dust residuals to be a "sludge" because they are not a "waste" as required by the definition of "sludge" at § 260.10 (a) (63), we understand EPA may consider them to be a "sludge." Since we cannot honestly tell under EPA's regulations the status of our residuals due to the uncertainty and interpretation of the definition of "sludge," we have no alternative but to include our valuable by-products under the hazardous waste regulations.

Furthermore, we did not include in this Part A application our Selenium Plant sludge and Tough Pitch baghouse flue dust, which is considered

to be a "sludge" under the EPA definition. These materials, upon generation, are sent back to our Smelter facility to be incorporated along with other feed materials for recycling in the cupola blast furnace. These materials are placed in the receiving storage area of the Smelter for consumption, which does not constitute storage in that this "sludge" enters the feed stream for relatively immediate recycling. These materials when placed in the feed storage area, in our opinion, begin the process of recycling and are not subject to the regulations.

Very truly yours,



Anthony Filiaci  
Director of Environmental Control

AF:oy  
att.

U. S. Metals

**AMAX**  
**ENVIRONMENTAL SERVICES, INC.**  
A SUBSIDIARY OF AMAX INC.

November 13, 1981

Mr. William Sawyer  
General Enforcement  
U.S. Environmental Protection  
Agency, Region II  
Room 437  
26 Federal Plaza  
New York, NY 10278

Dear Sir:

By letter dated October 2, 1981, EPA Region II Enforcement Division indicated that the United States Metals Refining Company (USMR) (a wholly owned subsidiary of AMAX Inc.) facility at Carteret, New Jersey was subject to the federal hazardous waste requirements promulgated pursuant to the Resource Conservation and Recovery Act (RCRA). Prior to receiving this letter we had contacted EPA Region II Office of Solid Waste to ask how we could obtain official recognition by EPA that certain residuals processed or sold by USMR are not solid wastes within the meaning of RCRA. To resolve the issue we arranged a meeting with Mr. Matthew A. Straus, of EPA's Waste Characterization Branch (WH-565).

We provided to EPA Headquarters information concerning the USMR facility at Carteret, New Jersey by letter dated October 19, 1981 (which was also provided to Region II enforcement). On October 26, 1981, in Washington, D.C., I and representatives of USMR met with Mr. Straus and Mr. Silverman who is with EPA's Office of General Counsel. After we had described why certain USMR residuals are not wastes, Mr. Straus and Mr. Silverman indicated that their tentative conclusion was that the materials in question are never "sometimes discarded" and, therefore, not solid waste within the meaning of RCRA. Subsequent telephone contact with Mr. Straus indicated that he and Mr. Silverman had indeed concluded that the materials are not solid wastes within the meaning of RCRA and that a letter to this effect would be provided to AMAX.

Mr. Straus indicated, however, that it may take a while before EPA could provide us with such a letter acknowledging that our interpretation was correct. Since the enforcement letter from Region II indicated that USMR should comply with the RCRA requirements by December 1, 1981, I contacted you by phone on November 2, 1981, and related what had transpired at the meeting with EPA Headquarters. Per your suggestion, I am providing this memorandum of the events for your files. It is our understanding that for a reasonable period of time (at least until January 1, 1982) no further enforcement action will be taken. If you have

any concerns regarding EPA Headquarters' position on this matter,  
please contact Mr. Straus.

If you have any further questions, please telephone me at  
(303)-231-0692. Thank you for your cooperation in this manner.

Sincerely yours,



Louis J. Maruchean  
Environmental Attorney  
AMAX Environmental Services, Inc.

LJM:mpa

cc: Matthew A. Straus





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION II  
26 FEDERAL PLAZA  
NEW YORK, NEW YORK 10278

OCT 2 1981

Louis J. Marucheau, Esq.  
AMAX Environmental Services, Inc.  
4704 Harlan Street  
Denver, Colorado 80212

Re: U.S. Metals Refining Company plant in  
Carteret, New Jersey

Dear Mr. Marucheau:

I am writing to resolve any confusion that has arisen with regard to whether the U.S. Metals Refining Company's plant at Carteret, New Jersey is subject to the regulations promulgated pursuant to the Resource Conservation and Recovery Act ("RCRA").

I have reviewed the report of the New Jersey inspectors who visited the Carteret plant on May 7, 1981 and the company's submittals to EPA during the last year (including the Hazardous Waste Notification, the Part A Application and letters, dated November 14, 1980 and November 26, 1980). It is my conclusion that the company's operations in Carteret are subject to the regulatory requirements listed at Title 40, Code of Federal Regulations, Part 261.6(b).

Title 40, CFR, Part 261, Subpart D specifically lists "emission control dust/sludge from secondary lead smelting" as a hazardous waste. In addition, the sludge generated at the plant is a hazardous waste. See (1) 40 CFR Part 260.10 definition of "sludge", (2) 40 CFR, Part 260, Appendix I, Figure 1, "Definition of a Solid Waste", (3) 40 CFR, Part 261.2 definition of solid waste and (4) 40 CFR, Part 261.3 definition of hazardous waste, and (5) 40 CFR, Part 261.32. Consequently, the company's plant is subject to the requirements described in 40 CFR Part 261.6(b).

During the inspection on May 7, 1981, New Jersey inspectors found evidence that the plant was in violation of certain applicable regulations. Among the regulations apparently being violated were 40 CFR §§262.20, 262.31, 262.32, 262.34, 265.13, 265.52(f) and 265.73. In view of past confusion concerning the applicability of RCRA regulations, EPA has decided to forbear from taking enforcement action for these violations, provided U.S. Metals

acts expeditiously to correct these violations within 60 days.

Sincerely yours,

Julio Morales-Sanchez  
Director  
Enforcement Division

cc: Anthony Filiaci  
U.S. Metals Refining Co.

7-10-81

**AMAX**  
**ENVIRONMENTAL SERVICES, INC.**  
A SUBSIDIARY OF AMAX INC.

October 19, 1981

Mr. Matthew A. Straus  
Program Manager  
Waste Characterization Branch, WH-565  
Hazardous and Industrial Waste Division  
Office of Solid Waste  
U.S. Environmental Protection Agency  
401 M Street SW  
Washington, D.C. 20460

Dear Mr. Strauss:

I am writing you on behalf of the United States Metals Refining Company (USMR), a wholly owned subsidiary of AMAX Inc., which operates a metals processing and refining facility in Carteret, New Jersey. We are writing to seek official recognition by EPA that certain materials processed at the USMR Carteret facility are not, within the meaning of the Resource Conservation and Recovery Act (RCRA), solid waste. If such a recognition must be made by rulemaking, then we hereby petition that you initiate such rulemaking.

ISSUE

While no residue discarded by USMR is hazardous under 40 CFR 261, certain materials which are processed or sold by USMR are collected in surface impoundments and baghouses. Although we have been told that the definition of solid waste will be changed by EPA, the current definitions, including that of the term "sludge," are such that there has been a question whether these materials collected in surface impoundments and baghouses are subject to regulation as hazardous waste. What we will demonstrate is that, by virtue of the nature of the operation at Carteret, New Jersey, these materials are never discarded. What we seek is a recognition similar to that made by EPA on November 12, 1980 (45 FR at 74887) that certain sludges are not solid wastes under EPA's regulations.

DESCRIPTION OF FACILITY

The USMR facility at Carteret, New Jersey is an extremely complex metals recovery operation. Through a variety of integrated pyrometallurgical and hydrometallurgical processes, the facility produces refined copper, gold, silver, platinum,

palladium, iridium, rhodium, ruthenium, selenium, and tellurium. The facility also produces nickel sulfate and metallic oxides, both of which are exported. Feedstocks for the facility are heterogeneous secondary materials (primary ores and concentrates are not processed). The feedstocks are introduced at various points during the process, depending upon the character of the feed and the percentage of contained copper and precious metals.

Although USMR is the largest secondary copper producer in the United States, it is not simply a secondary copper smelter. It is an integrated facility involving a smelter, copper refinery, and precious metals refinery, the combination of which allows the facility to be a major producer of precious metals. No other secondary copper producer has the precious metals refining capabilities that USMR has. This uniqueness is recognized in that USMR refines precious metals on a toll basis for many of the primary copper producers.

The importance of precious metals is illustrated by the following statistics. The value of one year's production of refined metals and other products at Carteret is approximately \$1 billion. Nearly two-thirds of this amount is represented by the production of gold, silver, and other precious metals. Because of this precious metals refining capability, a considerable portion of all feedstocks at the facility contains significant amounts of precious metals. For example, of the feed for the smelter blast furnace originating from outside the USMR facility, nearly two-thirds is shredded telephone scrap and electrical components which contain large amounts of precious metals.

Because USMR refines precious metals on a toll basis, and because feedstock materials are purchased based on precise assays of the materials, it is critical to the economic viability of the operation that no metal value be lost into the environment or elsewhere. Because of the very high values of precious metals (gold is worth more than 7,000 times an equivalent weight of copper) and because of the prevalence of precious metals throughout the facility, it is imperative that no material containing more than trace amounts of precious metals is discarded. As a result, no materials are discarded from the metallurgical processes. Even the smelter slag, which is nonhazardous under EPA's criteria, is sold as an abrasive to be used in sandblasting.

Although the nature of USMR's operation is such that no hazardous wastes are produced, certain materials collected in surface impoundments and baghouses may meet EPA's definition of sludge.

## SURFACE IMPOUNDMENTS

There are five surface impoundments at USMR. Four hyper-lon-lined lagoons are used to store acid solutions from the precious metals refinery. Filtrates from a number of hydrometallurgical refining processes are sent to these lagoons for storage where metals are then concentrated (through cementation and precipitation) and further processed. These acid solutions (known as the goldroom end filtrate) contain high concentrations of precious metals, particularly platinum, palladium and iridium. These acid solutions and solids which are formed in these lagoons are clearly part of the metal refining processes at USMR. However, a fifth surface impoundment may come under EPA's definition of wastewater or water supply treatment.

In 1977, USMR constructed a bentonite-lined reservoir to provide process water for the facility. The reservoir collects and stores rainwater runoff from the plant area as well as contact cooling water. Although treatment is not required for such noncontact cooling water, water being collected in the reservoir is subject to automatic pH adjustment by the addition of sodium carbonate to safeguard plant equipment should any acids reach the system. For the last two years, there has been no major introduction of acids into the system. Because of its limited use and chemical nature, there are no significant precipitates from the sodium carbonate. Solids which settle in the reservoir are continually processed through the facility.

While these solids are not produced by a "wastewater treatment plant" or a "water supply treatment plant," EPA may consider the materials to be "sludges." However, regardless of whether these materials are technically sludges, it is quite clear that, because of the precious metals content of such materials, they are never discarded and are not wastes.

The most recent assay of these reservoir solids indicated that the contained metal values are approximately \$5,000 per ton. Considering the latest assay which indicated 5.72 ounces per ton of gold and 142.5 ounces per ton of silver, the reservoir solids at USMR are far richer than the ores of most producing gold and silver mines. As stated above, the nature of the precious metals aspect of USMR's operations is such that no significant source of precious metals can be discarded. Thus, the reservoir solids have never been and will not be discarded. Based upon the rationale presented by EPA in the context of electroplating sludges (45 FR at 74887), USMR's reservoir solids are not solid wastes and, therefore, not subject to regulation as a hazardous waste.

## METALLIC OXIDES

Metallic oxides produced at USMR are sent overseas to facilities in the United Kingdom, Germany, and Belgium which recover specific metals. Of the some 20,000 tons produced annually, approximately 3,500 tons are immediately bagged upon collection and placed on pallets for shipment overseas in sea transport containers. The other metallic oxides are currently being pelletized upon collection and are stored in transport containers to prevent being windblown or otherwise contacting the ground.

Since the metallic oxides produced at USMR require no further processing to be used as feedstocks for metal recovery operations overseas, we understand that they probably will not be subject to regulation once EPA has officially revised its definition of solid waste. However, because the potential storage of these materials might subject USMR to RCRA permit requirements (metallic oxides are usually shipped within 60 days), it is essential that EPA officially recognize as soon as possible that these materials are not wastes.

The materials are further refined overseas because they are high in tin and zinc for which USMR does not have the refining capabilities. In addition, these metallic oxides contain significant amounts of precious metals. For example, of the approximately \$40 million worth of contained metal values for one year's production of these oxides, approximately \$15 million are attributable to gold, silver, platinum and palladium. USMR cannot afford to discard annually approximately \$15 million worth of gold, silver, and other precious metals.

Therefore, by the rationale expressed by EPA in the November 12, 1980 Federal Register, we believe these materials, even if they are technically sludges, are not solid wastes. This would also be consistent with EPA's recent decision that the recycling of certain baghouse dusts do not warrant regulation. On August 6, 1981 (46 FR 40159), EPA excluded from listing as hazardous waste certain baghouse dusts from a secondary lead smelter. Where the secondary smelter first used a baghouse to remove dust and then used a venturi scrubber for the off-gases, EPA, in discussing whether the wastes were hazardous, only looked at the scrubber sludges. The obvious implication is that because the baghouse dusts were recycled, there was no need to consider whether they were hazardous or not.

## SUMMARY

Although most of the materials produced at USMR (including goldroom end filtrate precipitates) are clearly part of USMR's

integrated metallurgical process, process water reservoir solids and metallic oxides collected in its smelter baghouses may be considered by EPA to be "sludges." Although we understand that these materials will most likely not be subject to regulation after EPA's definition of solid waste is revised, EPA may believe that these materials currently subject USMR to regulation. Because of the high precious metals content of these materials, and because USMR is a precious metals refinery, these materials are never discarded and should not be considered to be solid waste. In accordance with EPA's similar recognition concerning certain electroplating sludges, we request that EPA officially recognize that the process water reservoir solids and smelter metallic oxides at USMR are not solid wastes and are not subject to regulation under RCRA.

Sincerely,

*Louis J. Maruchean*

Louis J. Maruchean

LJM/bsm